DOCUMENT RESUME

ED 140 771 HE 009 098

AUTHOR	Fogel, Barbara R.
TITLE	Design for Change. Higher Education in the Service of Developing Countries. A Handbook for Planners.
INSTITUTION	International Council for Educational Development, New York, N.Y.
SPONS AGENCY	Rockefeller Foundation, New York, N.Y.
PUB DATE	Apr 77
NOTE	82p.
AVAILABLE FROM	Director of Publications, International Council for Educational Development, 680 Fifth Avenue, New York, N.Y. 10019 ($5.00)
EDRS PRICE	MF-$0.83 HC-$4.67 Plus Postage.
DESCRIPTORS	Administrative Personnel; College Faculty; Colleges; College Students; *Developing Nations; *Economic Development; Financial Support; Foundation Programs; Government Role; *Higher Education; *Institutional Role; Program Development; *School Community Cooperation; School Community Programs; School Community Relationship; *Social Change; Universities

ABSTRACT

This highlights the conclusions of a two-year study by the International Council for Educational Development of the ways in which higher education institutions in developing nations could assist in social and economic development. Extracted from case studies, reports, and minutes of meetings are recommendations for administrators, students, faculty, government agencies, and national and international donor agencies involved in or supporting development practices. Included are a project checklist and list of consultants to the study. (MSE)

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A Handbook for Planners

design for change

higher education in the service of developing countries

Barbara R. Fogel

HE 009 018

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A Handbook
for Planners

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higher education in the service of developing countries

Barbara R. Fogel

About the Author

Barbara R. Fogel worked on ICED's Higher Education for Development (HED) study from 1974 until the completion of this volume. She was assistant director and also co-author of the two volumes resulting from the study, *Higher Education and Social Change: Promising Experiments in Developing Countries*—Volume I (Reports); Volume II (Case Studies). Ms. Fogel was then named director and asked to prepare this handbook which is based on innovations described in the HED study and also on her own extensive research.

Ms. Fogel has had a richly varied career as writer and editor. She was an assistant editor of *Mademoiselle Magazine* and the author of numerous magazine articles. Her book, *What's the Biggest?* was published by Random House in 1966. She was associate editor for the Center for Urban Education and editor of *Insight*, a publication of the Scarsdale, New York, Board of Education. Ms. Fogel is presently co-chairperson of the Advisory Committee to the Scarsdale Board of Education, preparing recommendations for the school system for the next five years. She is joining the Academy for Educational Development as director of School Programs.

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Library of Congress Catalog No. 77-072257
Printed in U.S.A. April 1977

Foreword

Last year the ICED completed a two-year study of ways in which institutions of higher education could better assist in the process of social and economic development. Attention was directed, as might be suspected, primarily to so-called "developing countries." That study resulted in two volumes: the basic report by Kenneth W. Thompson and Barbara R. Fogel entitled *Higher Education and Social Change: Promising Experiments in Developing Countries*, and a second volume of twenty-five case studies that were a substantial part of the background for the report.

When this work was almost finished we felt that a third and briefer report was needed in order to highlight the conclusions of the study. We thought that such a report, prepared with the advice of the participants of the first study, would be especially useful to persons involved in educational innovation in developing countries.

The Rockefeller Foundation shared our interest in this venture and made a grant that supported the work of Barbara Fogel in the preparation of a manual for those involved in or supporting development practices. She set to work to extract from the case studies and the reports and minutes of various meetings the highlights of recommendations for administrators, students, faculty, government agencies, and international and national donor agencies. She ordered these in a most useful fashion and the result of her labors is this current, highly readable, and we trust very useful handbook.

Barbara Fogel is a perceptive student of the role of education in society. Active in school affairs in her home city of Scarsdale, New York, she came to work with Kenneth Thompson on our Higher Education for Development project and was central to the preparation of the report and the case studies. This present booklet is entirely hers.

But the importance of her manual for innovators goes beyond the immediate use of her work. It comes at a time when attention to higher education in developing countries has been reduced because of increased donor interest in pressing social problems both at home and abroad. At a time of massive starvation, unemployment and illiteracy it is hard for donor agencies,

particularly public donor agencies, to divert money from these demands to education which seems one step removed from dealing with the real problems of the world. While much can be said, of course, for direct attention to poverty and illiteracy, surely we have learned that the only way that these problems can be dealt with is through an educated population that can recognize a social crisis before it is upon them and can have some notion of how it can best be handled. In this circumstance higher education has a decisive role to play not only in direct dealings with development projects but in training that indispensable cadre of high-level manpower without which no society can possibly survive.

It is hoped that Barbara Fogel's handbook will stimulate some optimism as to the innovative capacity of institutions of higher education and a determination that they will continue to play a constructive role in turning development dreams into social reality.

James A. Perkins
Chairman
International Council for
Educational Development

February 1977

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He that will not apply new remedies must expect new evils; for time is the greatest innovator.

Francis Bacon

INTRODUCTION

This handbook is directed primarily to people in developing countries who are concerned that their most able young men and women are not applying the necessary knowledge and skills to their countries' problems. Some of these people may be educators who see higher education withering in an ivory tower and believe that it must be nourished by interaction with its society. Some are innovators outside education—in government or industry—who see the gap between students' preparation and what needs doing.

"It is relatively easy," said the late economist Frederick H. Harbison, "for an African country to educate government bureaucrats; the training of engineers and managers for large factories encounters no really insurmountable barriers.... But what do we know about conditioning the mind, creating the incentives, or building the commitment of young people to bring about the rural transformation: What kind of education will best equip a young man for local village leadership? Can anything in the curriculum generate enthusiasm for cooperative self-help activity? Above all, what can education do to build a change-making mentality?"

The International Council for Educational Development (ICED) has just completed a survey of the ways in which higher education in developing countries addresses itself to pressing social problems. The survey found that higher education on three continents is using new practices, structures, and concepts to meet national needs and to create such a "change-making mentality." While social values vary from country to country, from culture to culture within a country, and according to each country's level of development, and while few agree on the concept of development itself, both educators and laymen everywhere are asking searching questions about the purposes of higher education and what it achieves.

The ICED Higher Education for Development (HED) study* was sponsored by twelve national and international organizations. It was also unusual in another respect: its investigators came from the developing countries themselves and brought a third world perspective to its findings. It was these investigators, all distinguished educators in their own countries, who identified

* 1974-76

promising experiments in higher education within their regions and who visited and described the projects on which the report's conclusions were based.

Some of the projects sought to prepare students for the decisions to be made and the work to be done. To develop new skills, some projects combined work and service with study, and enlisted the know-how of various disciplines to train medical or rural development teams and/or to improve faculty teaching. Other programs focused educational expertise on community problems, feeding practical experience back into improved education. In the twenty-five experiments, innovative ideas and practices were put into effect, attitudes and values underwent change, and new structures and methods were devised to bring higher education into closer touch with social and economic needs.

Since issuing the report on this project, we at ICED have continued to wonder whether there might be a set of signals that could guide innovators of similar projects. In Africa, Asia, and Latin America there appeared to be common obstacles to overcome, common resistances to meet. The ICED project produced some evidence that people of different cultures often had similar reactions to change and that international cooperation could multiply successful efforts through what Jean Thomas, former deputy director-general of Unesco, describes as "a kind of echo effect."[2] Could we contribute to this effect by further distilling precepts and experience from case studies made in three regions? We thought we could.

In both the Higher Education for Development study and in this handbook, innovation is viewed not merely as small, piecemeal improvements—more books, more full-time staff, a better curriculum—but rather as a more fundamental change in concept and role of higher education. In developed as well as developing countries student skills and attitudes have appeared to correspond less and less well to social needs and expectations. Indeed, the problems of education, if not always their relative urgency, appear remarkably similar in developing and developed countries. Everywhere educators struggle to produce skilled manpower, equalize opportunity, reduce dropout rates and costs, and attract qualified students to technical training. Because they also struggle with the same resistance to change, this handbook for developing country change agents, although based largely on developing country experience, includes some examples and comments from the industrialized world. It may be heartening to people in the

newer nations to see that their counterparts in the older nations have not yet solved many of these problems either.

The blocks to modernization or development, however, vary from country to country and from time to time. In one case, for example, a self-imposed academic orthodoxy may stifle new educational ideas, and government must act to bring about necessary change. In other cases, institutions of higher education must struggle to free themselves from government regulations or enforced dogma in order to create an atmosphere of open discussion and experimentation.

In addition, education generally lacks hard data on costs and benefits, and it is difficult to measure some of its most important questions. The view of change itself is colored by the culture in which it takes place. Some cultures encourage innovation as a way of providing alternatives, each satisfying a different need. Other cultures tend to accept only one "best" way, represented sometimes by tradition, sometimes by professional or political authority.[1] Certainly, in no culture does change automatically offer improvement.

To compile this handbook, we sent questionnaires on innovation to members of the three regional teams that had made the case studies for the original Higher Education for Development project. We asked such questions as: What conditions are necessary for constructive change within institutions of higher education? Who have been most likely to start innovative higher education for development projects? And what standards should be used in measuring the value of these projects?

From their answers, from the twenty-five cases themselves, and from a few Western examples with similar problems we found that although conditions for success varied, there were common denominators. Such generalizations do not constitute a blueprint for any one project, but from them we have drawn up a checklist of factors that seem to favor or impede reform.

The ingredients of reform fall along several continuous sequences like the one mentioned between institutional freedom and government authority; in creating conditions for change, educators and developers must decide at what point between these poles their best efforts should lie. Where between social crisis and continuing social values can innovative efforts best be sustained. Where does the seed—the individual change agent—intersect with a fertile soil—an hospitable institution and society. And where, between scholarship that seeks to contribute to universal

knowledge, and research centered on specific problems and community needs, does education for development flourish? In all cases, the people within each country who best know these conditions will have to judge the specific barriers to development and determine just where educational change can best enter.

What follows is not a prescription for innovators. It is rather a continuing investigation of the mysterious process of reform, based on clues within the twenty-five case studies and on opinions of some trained investigators. This handbook seeks not to impose special ideas, but rather to articulate and synthesize the experience, opinions, and wisdom of many people who have been directly involved in the types of innovation considered here.

While I assume full responsibility for the contents of this handbook, I do wish to give my sincere thanks to those who provided special help and guidance: Amnuay Tapingkae, director, Regional Institute of Higher Education and Development, Singapore; M.O. Beshir, Institute of African and Asian Studies, University of Khartoum, Sudan; Harlan Cleveland, director, Aspen Program in International Affairs; Philip H. Coombs, vice chairman, International Council for Educational Development; G.R.V. Mmari, head of the Education Department, University of Dar es Salaam, Tanzania; G.L. Monekosso, professor at the University of Yaoundé, Cameroon; Alfonso Ocampo Londoño, former rector of the University of Valle, Colombia; Puey Ungphakorn, former rector of Thammasat University, Bangkok, Thailand; Kenneth W. Thompson, Commonwealth Professor of Government and Foreign Affairs, University of Virginia and former director of the Higher Education for Development project; F. Champion Ward, program advisor, International Division, The Ford Foundation; and last but especially, James A. Perkins, chairman of the International Council for Educational Development.

Barbara R. Fogel, Director
Higher Education for Development Project

1. Frederick H. Harbison, "The Insatiable Demand for More," *Carnegie Quarterly*, Vol. 17, No. 3, Summer 1969, p. 2.

2. Jean Thomas, *World Problems in Education: A Brief Analytical Survey* (International Bureau of Education: Studies and Surveys in Comparative Education), Paris: The Unesco Press, 1975, p. 114.

3. Richard A. Renner, "U.S. Aid to Latin American Universities: A Case of Cultural Transfer," *Intellect*, March 1974, pp. 385-386.

INGREDIENTS OF REFORM

The essential ingredients of any reform are the reformers. Little is known about how to cultivate the change-making mentality that Harbison spoke of, but one can draw a general profile of the people who have it, whether they are university vice-chancellors or first year students. First, they urgently seek to change something. They are restless and impatient with the status quo. They have encountered through travel, education, or personal contacts alternatives to the way things are done at home, or they have met new ideas that stimulated their own thinking. They have confidence in themselves and know successful innovators on whom they can model themselves. Almost always they have passionate interest and concern.

From people with these qualities arise sparks that ignite educational and social change. The first condition for reform, therefore, is discovering and encouraging innovators. What circumstances contribute to their presence in a society or in an educational institution? How many must there be—the critical mass—before the change is accepted?

Some environments are more hospitable than others to these change agents. Authoritarian societies, repressive governments, and unwieldy bureaucracies, for example, produce fewer innovators than do societies that welcome open discussion and that reward innovators with attention and respect. (Ironically, by hampering innovation, governments may contribute to explosive change; social pressures that have no outlets in reform sometimes build up to revolution.) On the other hand, innovators create their own atmosphere of excitement, attract their own support, and may change an apparently hostile environment by their very presence. The agent of change and the environment interact, the environment shaping the agent and the agent creating a new environment.

The following sections deal with some aspects of this environment and with the ways reformer and the ingredients of reform interact to create new educational programs.

Freedom and Restraint

SPONSORSHIP

Real change must have strong leadership and be sanctioned at the top.

"The efforts for change," said Ismael Escobar of the Inter-American Development Bank, "must be directed by the leaders of the society making the change. There must be a political decision-making power to coerce the structure, as the process through which innovation is adopted is neither logical nor symptomatic."[1] Within the educational institution, faculty members are most likely to accept and participate in change when they see institutional leaders supporting it; if the program aims at social change, the support of government, industry or other outside groups will also be needed.

"Development objectives," said a Nigerian educator, "are usually radical in nature; they call for the transformation of the status quo. Therefore, when participants in a professional organization have task conceptions that favor the status quo, such an organization cannot be expected to implement development objectives without external intervention."[2]

External intervention may come from a number of sources. Innovation can acquire authority from prestigious private groups or individuals, from faculty leaders, from interuniversity cooperation, from outside assistance, or from government or law. For a change to take hold within the institution, new ideas and programs usually require the support of a rector or vice-chancellor, a dean or an important group of professors.

Private Sponsorship

In some developing nations—Mexico, Singapore, the Philippines, and Colombia, for example—educational change can grow out of the efforts and sponsorship of private groups. It was a group of industrialists, bankers and businessmen in Monterrey, Mexico who in 1943 founded the Monterrey Institute of Technology and Advanced Studies (ITESM) to provide the technical and professional manpower they saw as necessary to Monterrey's development. The founding civic organization, along with a board of directors, the rector, and five vice-rectors, directs the running of

the institute and continue to contribute to its financial support.

In the Philippines, the Center for Research and Communication began in 1965 when a young economist, just returned from advanced studies in the United States, saw a need for more research on the problems of the Philippine economy. Along with another newly returned economist, he started a center for business and economic research devoted to the needs of private business. The center, which now also trains economists, is supported by business firms and individual donors, and by fees for research projects undertaken for both business and government agencies.

The Graduate Management Program at the University of Valle in Colombia had a similar origin. It was started by a young Colombian, with foreign training, who sought means to spur economic and social development in the Cauca Valley in the early 1960s. Reinaldo Scarpetta was a graduate of the Georgia (U.S.) Institute of Technology and at 26 a national director of the Colombian Management Association. He formed a small group of young prospective leaders of the region known as the "Tuesday night group," who met weekly to interview local leaders about the region's problems. After a year of interviewing and deliberating, the group concluded that there was a need for better managerial help in the region, more facts on which to base development decisions, and cooperation from various sectors of the area.

R.S. Wickham has described the way the Tuesday night group achieved this cooperative effort. First, it incorporated into the group people who had "links to sources of power." Second, it solicited views and support from leaders of important social and economic groups. Third, it identified leaders considered largely invulnerable to criticism and convinced them to lead "the concerted efforts of all sectors, groups and classes toward economic and social development of the region," so that "all sectors, groups and classes benefit."

"By this time," said Wickham, "a few leaders of the University of Valle had expressed interest in the notion of a common effort to spur development. The university interest came principally from the dean of medicine... and dean of studies... . As members of the regional elite, both men had earlier been interviewed by the Tuesday night group."[3]

"The Univerity," said Scarpetta, "assumed the role of catalyst and chief research agent in this process.... University-based professors of management joined senior businessmen in a joint learning situation, using the executives' own companies and

institutions as laboratories, and applying new concepts of management which focused on development...."[4]

Scarpetta was appointed acting dean and later dean of the faculty of economics to develop the plan. Financial support came from private business and industry, tuition, the Ford and Rockefeller Foundations, and the Woodruff Foundation of Atlanta, Georgia. The amount of support and its variety of sources resulted in the program's autonomy and reduced the university's dependence on government. It increased, however, the program's dependence on private interests.

Faculty Leadership

The case of the Graduate Management Program at the University of Valle points up the need for support within the university. The new management program followed in the footsteps of the Faculty of Medicine, which had already focused on development needs. Medical training had been responding for a number of years to social needs of the region and had been designed to develop the student's capacity to analyze new problems. A development orientation moved from one faculty to another, given weight by a small number of admired leaders from the medical faculty. If "the source of legitimacy for any educational program is the reputation of the faculty who teach it,"[5] it follows that programs will be copied when their leaders are considered worthy of imitation.

In Brazil as well as in Colombia, attitudes formed in medical education carried over into other programs of community action, and faculty groups who had participated in one took leading roles in the other. The Research and Education Program for Development (PROPED) at the Federal University of Bahia grew out of a Faculty of Medicine program, and fifth year medical students took part in medical and preventive care of families in a district of Salvador. Finding that community health was influenced by education, housing, sanitation and water supply as well as medicine, medical personnel helped start an interdisciplinary applied research center, Center for Urban Development (CEDUR) to focus on these related problems. Faculty experience in the medical program helped create a climate for the necessary pooling of skills and knowledge. In Peru, a group of alumni and former professors who held positions in the ministry of agriculture gave similar support to the Transfer of Technology Program at the

National Agrarian University in Peru as a way to break down the barriers between the university and the ministry.

Interuniversity Cooperation

Other institutions of higher education can also cooperate on the program and lend their sponsorship or support. In Thailand, when Kasetsart University sought as part of its agricultural extension to improve land and water-use technology in the rural area surrounding its new campus, it ran into complex overlapping problems of health and community development. The agricultural university thus invited two other universities—Thammasat, oriented to the social sciences, and Mahidol, which emphasizes medical sciences—to join with it in finding solutions to the combined problems. The three universities formed interuniversity faculty-student teams to test development methodology and improve rural conditions in the Maeklong River Basin. A representative from each of the three universities and from the Rockefeller Foundation, which contributed to the project's support, administer the project.

Outside Assistance

A powerful sponsor of innovation (as well as of status quo) is the one who holds the purse. Outside financing of a program of higher education can bypass local and political resistance and promote and support unconventional ideas. An available fund, earmarked for change or expansion, can also act as a spur to imaginative plans for its use.

At the University of Cameroon, nine national and international agencies, public and private, helped a small group of Cameroonian medical educators plan and train staff for a new form of medical education based on changed attitudes to health practice and training. With cooperating outside financial assistance, the program hired consultants and launched a staff development program before the University Centre for Health Services opened its doors to its first student classes. Physicians and educators visited other medical and science facilities in Africa and Latin America, and university and government representatives consulted with U.N. experts under the auspices of a special national commission. Only after long discussion of various health training alternatives did Cameroon apply to the United Nations Development Programme

(UNDP) for funds to initiate the Centre.

Program leaders, however, should beware of accepting funds with too many strings attached. Especially at the beginning of a new program, planners should have the chance to experiment, change their minds, and respond to the views of participants. Even projects with trained staff need time for research, analysis, conferring, and planning; where staff members need special training, still more time is required. Assistance agencies, whether local, national or international, governmental or nongovernmental, should bear in mind this need for time and elbow room. Participants need the security of knowing that a failure of some part of the project does not necessarily mean the end of the project.

At the same time, developing country policy makers are more and more convinced that they should exhaust their own local resources before seeking foreign aid. "Regional/international funds should *never* replace national funds," said G.L. Monekosso, director of the Centre for Health Services in Cameroon. "Such 'outside' sources will best complement 'inside' sources. Local initiative (perhaps guided by outside expertise) is imperative."[6] Amnuay Tapingkae, director of the Regional Institute of Higher Education and Development (RIHED), Singapore, says: "Local initiative is most important to ensure long-term development. A concept of 'partnership' is to be promoted against 'donor' and 'receiver' relationship and mentality."[7]

Similarly, funds from national governments should not replace institutional or local community resources, where these resources are available. The closer the level of funding authority to the project, the more independence the project will have. Local funding also tends to carry with it a commitment to the project. Cameroon's University Centre for Health Services achieved a particularly successful blend of financing. The government of Cameroon and UNDP provided the principal financing with the World Health Organization (WHO) serving as executing agency for UNDP. French, Canadian, and U.S. government assistance agencies helped recruit and pay additional staff and support service. The World Bank and Ford and Rockefeller Foundations also provided financial assistance. The director of the program concluded that "multi-donor participation, with leadership in the hands of nations, can be a very effective way of achieving developmental goals."[8]

Official Support

In socialist countries such as Tanzania, the authority of government or political party is a prime condition for change, and any innovation within an educational institution requires government support and approval. Even in a nonsocialist nation, a high government official can often ease experimental programs through red tape and official apathy or jealousy. With official sanction, the program is more likely to have impact on development and to bypass institutional resistance.

Brazil's program for development (PROPED) at the Federal University of Bahia, a radical departure from the university's traditional activities, received strong impetus from the governor of the State of Bahia who had been a former rector of the university. PROPED was also able to recruit the state secretary of agriculture as a member of its board of directors and to persuade the ministry of agriculture, the ministry of education and culture, and the mayor of Salvador to provide teaching staff, funds, or other assistance. Similarly, the Transfer of Technology Program in Peru brought in top ministry officials and was supported besides by the new Agrarian Reform Law, which encouraged closer ties between the university and the ministry of agriculture. Law does not necessarily produce innovation, but it can strengthen the hand of innovators who seek compliance with it.

Many apparently successful projects are not transferred to other parts of the country or built into government programs because planners did not consult at the outset with government officials. Where government helps plan the project or shares responsibility for public service with an educational program, it can help extend it into other districts. The University Centre for Health Services in Cameroon, for example, took over six government-run health demonstration zones in which the Centre integrated health care and trained health personnel. The Cameroon government agreed to help the Centre gradually extend activities into other districts. Similarly, the Nigerian government gave the Ahmadu Bello University project a national impact when it directed other agricultural research stations in the country to develop similar programs.

The source and aim of any innovation must be considered, and the advantages and disadvantages of government or private sponsorship weighed. If a program proposes radical change in teaching methods or faculty attitudes, its success will depend on

institutional commitment; if it threatens government procedures or policy or private interest, it will need an especially highly placed patron.

AUTONOMY

The freedom to experiment must be guaranteed by institutional autonomy.

Intervention from government can be a two-edged sword, dangerous as well as useful. While government officials may give authority to a new educational program, government control over higher education can stifle imagination and block educational plans that threaten traditional ways or seem critical of government policy. Educators seeking change must balance adroitly their need for government cooperation against independence of action, opposing forces either in government or the institution which tie their hands.

"A university must not only serve but must also challenge through critical and independent thought the orthodoxies of the moment, dissent being a necessary feature of academic integrity,"[9] said Alexander Kwapong, former vice-chancellor of the University of Ghana. "What a university owes the government of the day," said two other African educators, "is neither defiance nor subservience. It is a combination of criticism and affirmation, attachment and responsibility, or in other words, intelligent cooperation."[10]

On the other hand, it is sometimes strong academic tradition rather than government that withstands the most determined individual efforts to introduce reform. New institutions fear a loss of prestige if they do not conform to traditional standards and methods and therefore are reluctant to try new paths. Perhaps for such reasons new universities, expected to produce radical change, often depart little from established ways. Harvard Professor David Riesman, after a year at one of Britain's new universities, wrote that, "The very centralization of academic life in Britain, the insistence on a standard, examinable curricular coinage, enforces limits on innovation."[11]

S.K. Hulbe, director of the Centre for Studies in Rural Development at Ahmednagar College in India, says, "there is no substitute for a great leap forward from an antiquated system to a modern imaginative system of education," but, he continues, such a leap is impossible when all university courses and programs must

be geared to country-wide exams. "The recommendation of the Kothary Commission on autonomous colleges, if adopted," says Dr. Hulbe, "would [have] the best chance of revolutionizing education in India. Once autonomy is granted, some of the more enterprising and enlightened institutions could change their entire educational programme...."[12]

Neither Britain nor India is forced into as tight an academic mold as many other countries, and more centralized national systems tend to face correspondingly more obstacles to change. Where such academic orthodoxy rules, government may be the necessary spur to innovation and the impetus to programs more closely tied to social purposes.

Since ministries generally hold the purse strings for educational institutions, they largely determine the kind of support new programs receive. Institutions can sometimes maintain control by satisfying government that the program deals with practical development problems. "While guarding their internal freedom," said Arthur T. Porter, vice-chancellor of the University of Sierra Leone, "our universities should constantly be thinking of how they can be responsible, constructive and loyal without being servile. Self-discipline, it has been said, is the most hopeful defence against the imposition of discipline from outside."[13]

Several countries protect project and institutional independence by establishing a nongovernmental body—a national universities commission or grants committee—to distribute funds to higher education. Such a body also encourages joint planning by the various institutions of higher education.

Institutions of higher education in a number of countries have also set up centers or institutes, to varying degrees independent of both university and government control. Their relative independence gives them several advantages: they can recruit university staff and students from any or all disciplines without going through the usual administrative channels; they can make decisions on the spot; they can often establish more direct and informal relations with government; and they sometimes meet less resistance from local communities who mistrust government bureaucracy and thus may suspect all programs affecting them. (For further discussion of such mechanisms see section on Their Environment.)

RECOMMENDATIONS

1. Recruit sponsors by:
   a. Inviting distinguished individuals, from government community, administration, private interests, or faculty, to contribute their own ideas in small discussion groups. The prestige of other members of the group will be an incentive for individuals to participate. Persuade them to recruit others.
   b. Asking government agencies or private groups whose interests fall within the sphere of the new program proposal for the opportunity to appear before their groups to describe the program. Ask for suggestions and advice.

2. Talk to leaders of local communities about the need for the program. Invite them to describe this need to possible sponsors (perhaps at discussion group meetings) and to help with program planning.

3. Look for similar programs and sponsors already within the institution. Ask for advice, participation, and leadership.

4. Bring together interested staff members along with staff inside or outside the institution who have had experience with similar programs. Discuss what has been learned.

5. Apply to national and international assistance agencies for advice and support. Flexible financial support in early planning stages can pay salaries and transportation and relieve faculty of teaching while they plan. Pioneering programs such as that in Cameroon may need a long period of investigation and planning even before planners decide on the nature of the program.

6. Approach other institutions of higher education with needed supplementary expertise and/or experience to discuss possible cooperation and joint sponsorship.

7. Look for sources of independent financing of reform programs. Most education budgets are committed to regular operations and it is difficult to pry loose special funds for innovation. However, private agencies, business, industry, or multinational corporations that employ graduates or use educational services can sometimes be persuaded to contribute funds. Institutions of higher education—or satellite institutes or centers—may charge for services to government, industry,

farming cooperatives or associations, or to individuals. Patents growing out of the work of research scholars may also be a source of funds, contributing to institutional independence.

8. Seek legislation or government policy that encourages private giving. Tax deductions or other incentives for gifts to education can attract funds for experimental projects.

9. Encourage educational diversity. An institution that has a number of possible means of access, several patterns of study and kinds of degrees, not only provides more flexibility but also weakens the power of central authority. A diverse student body encourages innovative programs to meet special needs.

10. Establish links with governmental and nongovernmental development agencies, preserving at the same time as much independence to make decisions as possible. If government is convinced that academic independence serves national development, it may be willing to cooperate rather than to control. Project directors who have also had experience in government or elsewhere outside institution walls can more easily work with planning officials and government ministries.

11. Consult and inform government about the project and its results. Collect data on effects of educational programs. Governments sometimes tend to underestimate the impact of higher education on development, and reform programs must make governments aware of how higher education can benefit the community.

12. Consider creating an institute or center linked to the institution of higher education but separate from it, with its own administration, budget, and programs. Such institutes or centers may have more freedom to undertake innovative development programs but run the risk of drawing talent away from the parent institution, without feeding back research and new ideas to regular faculty and students. To offset this danger, establish close teaching and research ties between the education institution and its offshoot. If government officials are included in the planning or advisory committees of higher education for development projects, they are more likely to be aware of their results and interests in their progress. They are also less likely to feel that the new projects intrude on their own functions.

13. Investigate ways of coordinating financial assistance so that no one funder has complete control. One way to join resources is "twinning" universities or governmental agencies—an institution or agency in a developed country establishes close relations with a similar institution or agency in a developing country. Another way is to channel funds through regional or international development institutes which can supply advice and planning help along with the money. Jean Thomas reports that some members of the International Commission on the Development of Education suggested launching "an international programme aimed solely at providing scientific, technical and financial aid for states wishing to embark upon new educational strategies."[14]

14. Seek fellowships that can prepare the ground for later projects.

1. Ismael Escobar, "Innovation and Development," *The IDB's First Decade and Perspective for the Future* (Round Table), Pienta del Este, Uruguay: Inter-American Development Bank, April 1970, p. 78.
2. Bamidele A. Ogundimu, "An Aspect of Education and Public Policy in Nigerian Universities in the Context of Nigerian Development Objectives," Ph.D Dissertation Proposal, Stanford University, 1974, p. 111.
3. Robert S. Wickham, "University Reform in Latin America: A Case Study of the University of Valle, Cali, Colombia," Ph.D Dissertation, University of California at Berkeley, 1974, pp. 184-189.
4. Reinaldo Scarpetta, "Management Education as a Key to Social Development," in Peter F. Drucker, ed., *Preparing Tomorrow's Business Leaders Today*, Englewood Cliffs, N.J.: Prentice Hall, 1969, quoted in Wickam, *op. cit.*, p. 189.
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9. Alexander A. Kwapong, "University Autonomy, Accountability and Planning," *Higher Education: Crisis and Support*, New York: International Council for Educational Development, 1973, p. 174.
10. A.A. Mazrui and Y. Tandom, "The University of East Africa as a Political Institution," *Minerva* V, No. 3, 1967, pp. 381-386, quoted in Ogundimu, *op. cit.*, p. 7.
11. David Riesman, in *Universities Quarterly*, quoted in Peter Wilby, "Interesting Experiments but no Radical Change," *The Times Higher Education Supplement*, June 18, 1976, p. 7.
12. S.K. Hulbe, "Education for Development and Social Justice," unpublished manuscript, 1971, p. 37.
13. Arthur T. Porter, "The University in Africa Tomorrow," Keynote Address, Third General Conference of the Association of African Universities, Ibadan, Nigeria, April 9-14, 1973, Accra, Ghana: Association of African Universities, 1973, pp. 42-43.
14. Thomas, *op. cit.*, p. 117.

Crisis and Continuity

SOCIAL STIMULI

"A sense of crisis is the determining factor in creating a climate for change that forces governments to act: the political cost of inaction must appear to exceed the cost of action."[1]

Five respondents to the ICED questionnaire—distinguished educators from Thailand, Singapore, Sudan, Cameroon, and Colombia—listed this sense of crisis as of prime importance in moving educational institutions to support new projects.

Like governments and individuals, institutions generally must have an overwhelming reason to break with tradition or habit. "The society must view the need for innovation as urgent," says Ismael Escobar of the Inter-American Development Bank.[2] The urgency may come from the economic or social situation of the nation. Or it may stem from immediate educational or institutional distress: a lack of funds; poor employment prospects for graduates; dropping (or soaring) enrollments; or changes in the nature of the student body. Student revolt or racial outburst have forced curriculum and organizational change; manpower needs, both overproduction and shortages of graduates, have occasioned educational soul searching. National crisis has been the spur for most of the higher education for development programs and their response to social needs.

External goals, however, do not guarantee innovative or always appropriate responses. Once a crisis has been resolved, its sources can be ignored and change postponed or forgotten. Or a desperate crisis, occasioning a military coup or government emergency powers, can paralyze all social and educational innovation, sometimes closing down universities and wiping out dissent. New programs need the impetus of social conviction as well as the freedom to challenge orthodoxy and experiment with new methods of reform. The "nutritive requirements for innovation," says Lieberman in *The Pathology of Innovation*, "are flexibility and risk-taking."[3]

VALUES

Institution, staff and students must accept the need for change and the values underlying the change.

"A sense of moral direction, cultural continuity, self-image and identity as a nation, but also the capacity to relate economic and social goals to moral purpose are crucial elements in any sustained development effort," says the Indonesian statesman Soedjatmoko. Social and economic development is not purpose enough for a higher education program unless the meaning of development is clearly understood. "The improvement of living conditions as a goal," says Soedjatmoko, "has to make sense in terms of the broader purposes of society, if motivations for development are to be maintained. Almost all developmental decisions have ethical implications...."[4]

"The recent experience of the University of Dar es Salaam," wrote David Court, "is evidence that a favorable ideological or philosophical climate is critical to a university's ability to conceive and practice a new developmental role. Because those outside the University constantly and publicly attribute importance to the University of Dar es Salaam in the struggle against underdevelopment, those inside it are encouraged to respond to that trust."[5]

Even with such encouragement, however, professors do not easily change their ways of teaching nor do students or community members suddenly accept new views of themselves and of their futures. Participants cooperate most easily if they feel they contribute to important goals and see change as bringing new benefits without taking away old ones.

If integrated teaching or projects focused on community needs are to succeed, staff members must believe in them. Some community projects require them to give up departmental autonomy for joint courses and staffs or to leave the classroom for field activities. It is the staff who will effectively join service, research, and teaching and determine how well the practical tasks of the project are incorporated into academic work. Without staff commitment, the project will have little impact on either development or education.

On the other hand, an analysis of The Rand Corporation's study of 293 federal United States programs supporting educational change showed that "*none* of these projects were [sic] initiated in response to a significantly felt need to change among school staff. In fact, it was always assumed that the objects of the project's efforts, those people who were to be 'developed' (changed) would resist that effort, deny the project's utility, and otherwise be obstacles to change. Most projects came into being because of a

small cell of persons who operated independently of or in opposition to the wishes of district superordinates and the trainee group as well. Districts moved not so much toward any carefully conceptualized future, as away from whatever problems were most pressing and which could be ameliorated (note, not 'solved') by someone else's money."[6] Changing behavior, therefore, required outside intervention.

Such intervention, however, needed both authority and persuasion. "Where the goals of the project included attention to strongly held cultural values (attitudes about race, ethnic pluralism, student responsibilities), the projects tended to concentrate on the supposedly more neutral and technical aspects of pedagogy and consistently avoided engaging in controversies. Thus, projects that started out to deal with race ended up working on instructional techniques."[7]

Faculty members, like most people, are inclined to resist changes that threaten not only their security and status but also ideas and values. They may be understandably sceptical of "improvement" promised by new ways. Their check on reform is not always unhealthy. "Uncritical acceptance of change is a danger.... Even where finance is not concerned, change and experiment may confer respectability...."[8] Faculty resistance may oblige innovators to improve plans or abandon a badly conceived idea.

Students, too, must be convinced that new ways of learning and new educational goals are better than the old ones. Experimental programs will have to persuade students that they do not threaten the value of credentials, making it more difficult to get jobs or achieve recognition. Students in all parts of the world fear substandard training and, especially in rural health and community development projects, being prepared only for work "in the bush." In "umbrella" programs, in which students seeking professional degrees train with those who will graduate as technicians, professional candidates fear also a loss of status. Students in the Cameroon health project accepted radical changes in health and medical training because of the program's high standards and consequent prestige. In the process, both students and faculty developed new attitudes toward rural health care. The bold vision and ambitious aims of the program and the tangible advantages it offered to both individual and society survived student fears that they were being used as guinea pigs and staff reluctance to give up some formal lectures for more field work. To allay fears and to

encourage students to take part in voluntary field activities, project designers should keep students well informed about what the program tries to do, how well it is progressing and what it expects to achieve. Waiting jobs are the most effective incentives.

Like faculty, students often must develop new attitudes to social development and to education itself. A common difficulty in many developing country higher education for development projects has been persuading both faculty and students to work with their hands—with the farmer in the field, or with the villager or laborer. To give students firsthand knowledge of rural problems, some countries, such as China and Tanzania, require prospective students to spend time on farms or in factories before being accepted for higher education. At the former Haile Selassie I University in Ethiopia (now Addis Ababa University) students did not receive a degree until they had put in a similar period of service. In Indonesia, all students are expected eventually to spend six months working in village development activities.

Assigned to field work in distant regions, however, students often feel neglected and cut off from their education, sometimes embroiling themselves in trouble with employers or community members. Field assignments can seem unrelated to classwork, and some students say they are wasting time or being exploited.

To counteract such feelings, the institution or program should prepare students for assigned jobs, should keep in touch with students and employers during work periods and should tie field work to the academic curriculum.

In community oriented projects, close relationships have developed between students and faculty. Working side by side on farms or in factories has transformed the teaching process, creating informal contacts and new understanding on both sides. The Transfer of Technology Program in Peru reported that work in rural areas also afforded students and professors opportunities to create and develop leadership qualities that were not demonstrated in regular academic activities.

One of the standards of a project's success is the number of students who devote themselves to national problems after graduation. Countries suffer brain drains of both those who study abroad and fail to return home and those who study at home but leave needy areas for higher paying jobs elsewhere, feeling higher education has been their road away from poverty and need. Even when graduates are required or paid to return, rural communities tend to receive the least experienced workers. Community

centered projects should inspire students to future service. Students should learn not only social science or physical science research techniques but also an understanding of the nature of development and an understanding and concern for local people.

Projects with obvious advantages stimulate demands for admission and thus can choose from a pool of well-qualified professors and students. Faculty and students who are informed and enthusiastic in turn attract others to the project. When participants themselves are committed, they can persuade others.

RECOMMENDATIONS

1. Take advantage of a sense of social crisis to spur long-range solutions of educational problems. Student protest or financial straits alone cannot sustain a new program but may be the occasion to launch a good project. Aims should be ambitious. "The best projects set out to make a big difference."[9] Programs that seek radical change can make the inevitable compromises and still have some of the original purpose left.

2. If the change requires new attitudes, decide how they can be encouraged without threatening the security, self-esteem and values of the group most in need of change. Consider setting positive rather than negative goals and designing ways of adding rather than subtracting benefits for staff, students, or community members. Goals should appeal to professional and personal interests. Teachers will want to learn more effective teaching methods, students to improve their training, and farmers to grow better crops; their attitudes are most likely to change as a result of their success.

3. Consult all participants in planning a project. Innovative programs rarely succeed unless all participants "understand the plan, believe in it, and feel that they have a stake in it."[10] Planners who consult with staff, students, and community during the project's early stages establish common values and lay a groundwork of accurate information and cooperation. They also become aware of varying interests, and of pressures for and against change. Even where they have consulted all along the way, groups affected by the proposal (faculty, senates, community councils) should have a chance to discuss final plans before they go into effect and to recommend changes. Worthwhile reforms have sometimes been defeated because plans

were submitted to such groups in printed or final form rather than as drafts to be amended.

4. Arrange for regular meetings of students, faculty, community members, and administrators to discuss the project methods and its progress toward goals. The project and the participants must adapt to each other; different values and interests must be reconciled, sometimes over a period of several years. "Much of the opposition to change is in the fear of the unknown," said the OECD workshop report.[11] Staff will learn new skills and adapt to new roles more easily if they can discuss difficulties as they arise, share ideas, and receive support from director and colleagues. (Outside consultants are most helpful when they offer concrete, how-to-do-it advice, most developing country educators report.)

5. Arrange for both administrators and staff to visit similar projects elsewhere, not only at the planning stage but during the course of the project.

6. Describe general strategy and procedures of project, perhaps in a handbook for participants.

7. Encourage staff members to prepare their own teaching materials, incorporating project ideas into concrete lesson plans and research guides. When they have helped shape the program, they have an incentive not only to accept the change but to promote it. Once they have accepted the objectives and general ways to achieve them, they must be trusted to adapt the change to local conditions.

8. Enlist the aid of government and/or industry in placing students in appropriate jobs. If students are to see the academic value of work experience, the experience must be coordinated carefully with classroom study. Institutions can encourage employers to offer meaningful jobs. They can invite professionals from government or industry to serve on academic faculties or to act as examiners. They can arrange for academic lecturers to spend time in government or industrial jobs so they can bring work experience back to the classroom. They can design curricula flexible enough to change as manpower needs change, persuading employers that students offer up-to-date job skills.

9. Provide participating students with good counseling and supervise their service activities and field work carefully. Ties can be maintained in a number of ways: a work training organizer can arrange student placement and supervision; professors can strengthen contact by working along with students; or students can return regularly to the classroom to discuss their experiences. When institutions assign academic credit for community work, as Gadjah Mada in Indonesia and the Monterrey Institute in Mexico do, students are encouraged to participate and to see the field work as part of the curriculum. Field learning must be reinforced in the classroom. Some institutions (e.g. the Agrarian University in Peru) finance student theses based on field work.

10. Follow up on student training by persuading them to work on farms and villages after graduation. Some countries pay a study stipend on condition that students spend two or more years after graduation where their skills are most needed. But often students perform their service as quickly as possible and then move on. (Governments have discouraged students from buying out their service obligations by requiring them to pay back several times the amount paid, if they do not serve.) One African government places youngest health graduates in rural jobs, later finding them positions in towns and cities when their children reach school age.

1. James P. Grant, *Growth From Below: A People-Oriented Development Strategy*, Development Paper 16, Washington, D.C.: Overseas Development Council, 1973, p. 24.
2. Escobar, *loc. cit.*, p. 78.
3. Janet E. Lieberman, "The Pathology of Innovation," *Liberal Education*, Vol. LXII, No. 3, October 1976, p. 382.
4. Soediatmoko, unpublished comments for ICED on "Institutes of Higher Learning and Development," Jakarta, Indonesia, 1974, p. 4.
5. David Court, "Higher Education in East Africa," *Higher Education and Social Change*, Vol. II, *op. cit.*, p. 477.
6. Dale Mann, "The Politics of Training Teachers in Schools," *Teachers College Record*, Vol. 77, No. 3, February 1976, p. 324.
7. *Ibid*, p. 326.
8. Centre for Educational Research and Innovation, *The Management of Innovation in Education*, Paris: Organization for Economic Co-operation and Development, 1969, p. 42.
9. Mann, *loc. cit.*, p. 326.
10. Philip H. Coombs and Jacques Hallak, *Managing Educational Costs*, New York: Oxford University Press, 1972, p. 230.
11. Centre for Educational Research and Innovation, *op. cit.*, pp. 35-36.

Seed and Soil

AGENTS OF CHANGE

There must be an active search for imaginative and innovative individuals who care deeply about reform and are willing to take risks.

The characteristics of reformers have been described in the section on Ingredients of Reform, but their haunts are not always obvious. Where are they to be found?

Despite examples of outside reformers, innovative higher education for development projects are likely to come from what Puey Ungphakorn, former rector of Thammasat University of Thailand, calls "thinking faculty."[1] "New schemes rarely arise from the careful deliberations of committees," says a British report on change, "and less often than one might expect from convincing demonstrations of a systematically researched need. An innovation is more typically triggered off by a chance meeting...or by the arrival of a...visitor interested in modular courses."[2]

"Lone innovators," continues the British report, "are often found in large departments, where with more money, personnel and space available, there is sometimes more scope to experiment in teaching without all eyes being on the experimenter. This isolation has the advantage that failures are not necessarily blown up out of proportion but the concomitant disadvantage that others do not learn from the experience."[3] In the twenty-five case studies of the ICED Higher Education for Development project, these "departments" are often professional schools—health or medicine in Colombia, Cameroon, Brazil; management training in the Philippines; agriculture in Peru. At Thammasat in Thailand and Ahmednagar in India, program innovators came from the departments of economics or social studies. Programs that include contact with practical problems to improve the training of medical students, managers, or community developers become models for other university programs.

Amnuay Tapingkae, director of RIHED, lists the following people as most likely to start innovative higher education for development projects: "1. Administrators who have been exposed to international, educational experiences either with overseas training or visits; 2. Professors (full-time) who have wide contacts with their counterparts abroad and who are in a position to

influence the administrators; 3. Students who participate in university and student affairs and who have been exposed to national and regional or international experiences such as work camps, study-service and voluntary activities; 4. Government officials who have university teaching and administrative experiences both at home and abroad." "Some outside advisors are effective," he adds.[4]

Both M.O. Beshir of the University of Khartoum and Alfonso Ocampo Londoño, former rector of the University of Valle in Cali, Colombia, also say that administrators and faculty who have studied abroad are the most likely innovators. At the University of Valle, faculty members who had received U.S. medical training started a new type of medical school in Colombia, which emphasized public health and community medicine.

An individual with a passionate interest and commitment attracts as much institutional support as does a sense of social or educational crisis, says Dr. Amnuay. Puey Ungphakorn thinks that in many cases such an individual "may be more important than the sense of social or educational crisis... but without the sense of crisis and the need to raise academic standards the projects may not last."[5]

Although these individuals—the "divinely discontented"—tend to be self-confident and willing to take the risks of change, they may have to be protected against the risks to their own careers. They should not lose tenure or opportunities for promotion if they propose reforms and new programs or when they take time to plan or run new projects.

Change agents can sometimes be trained. A U.S. Academic Leadership Development Program developed by the Association for Innovation in Higher Education plans to identify respected teachers committed to the development of innovative programs. These "Fellows" will attend workshops, meet with special trainers and with each other, then serve as interns for a year in an institution of higher education, "working with faculty, colleagues, students, administrators and others to develop realistic curricular innovations.... Each fellow will increase his or her skills as a change agent and will also establish means whereby continued change can be facilitated."[6]

THEIR ENVIRONMENT

Innovation is stimulated by a larger world of ideas and action. Higher education must have continuing contact with life and thought outside institutional walls and outside national borders.

It is true that administrators, faculty, students and government officials who have studied or visited abroad in neighboring countries as well as in the industrialized world, who have met and corresponded with colleagues from other countries, and who have been exposed to other ways of living and working often bring home innovative ideas and start processes of change. It is well known, however, that much overseas education has prepared developing country students badly for local problems, and that students return from abroad as often disoriented as ready to reform.

To develop a faculty both stimulated by new thought and, at the same time, in touch with their own country and culture, the University of Dar es Salaam in Tanzania encourages prospective staff members to combine a short intensive period of work in an overseas university with most of the Ph. D. degree requirements at home. The university also pays a staff salary to promising graduates during the period of their overseas work as an incentive to return.

Leaves for study in industrial countries provide only one kind of faculty incentive for bold thinking; institutions can offer others. Visits to innovative projects and study in neighboring countries also provide stimulation and information. Increased salary and career benefits can reward innovators for being unconventional. (A condition for promotion may be curriculum reform.) Supportive administrators, satisfactions of new challenges, time and opportunity to experiment, and especially approval and prestige from colleagues and society at large also spur individuals to change. (Conversely, loss of tenure or promotion, disapproval from fellow staff members, administrators or government dampen innovative ardor.) In an Asian workshop on Higher Education, Tarlok Singh said: "It is the task of the university to promote initiative and the freedom to innovate at every point within the structure."[7]

Students, although often stereotyped as radicals, tend, especially in Africa, to seek security more often than change. David Court points out that "because students expect, realistically, to enter the elite in East Africa, they have not been sources of radical innovation within the universities. The temptation to think of little

more than satisfying the academic requirements necessary for cooption into the national elite is overwhelming, while the coercive power of government is immediately available to deal with any individuals who might wish to change the rules of the game."[8] (In Latin America, students at the national universities represent a greater threat to university and government administration and have there been one of the leading factors in social change.)

Yet developing countries on all three continents are seeking ways to bring students into closer touch with the people and their needs. In some universities, courses and projects are designed, often at government instigation, to counteract student elitism, transform student attitudes and values, and produce graduates with the skills and determination to change society. Work-study programs in Ghana, India, and Peru mix teaching, research, and service in an effort to train students to solve social problems. Tanzania requires prospective university students to spend a year on farms or in factories before they are admitted to higher education; the three-university rural development project in Thailand sends teacher-researcher-student teams to rural areas. Whether such efforts produce social or educational innovators remains to be seen, but Asians report that the student drive for progress has improved teaching and changed curriculum,[9] and African students exposed to development needs in village and countryside have increasingly contributed ideas for change.

Clearly the individual change agent must encounter responsive surroundings, just as even the best designed structures can only encourage innovators, not create them. A British educator observes that when "the forces... acting on students and especially members of staff neither predispose them to accept change...nor make them capable of drawing appropriate conclusions from their experiences," change "is unlikely to come from unaided personal initiative."[10] An educator in the United States concurs. "The task of educational leaders" says Harvey Scribner, "is to set the tone for reform and to establish environments that make it possible."[11]

An institution of higher education must generally reach a point of maturity before it can encourage innovation and personal initiative.

The institution may not be ready for educational and social change until it has enough competent local staff members to take over from expatriate professors, and until it has an adequate source

of qualified applicants to higher education. A new institution must solve the problems of plant and organization before it can engage in social reform; most important, it must acquire the confidence to do so.

Frank H. Bowles, former Planning Officer of Haile Selassie I University in Ethiopia, saw in developing nations on all continents five successive stages of educational growth, from the formation of a national system of education (Stage 1) to arrival at university maturity (Stage 5). Higher education, which characterizes Stage 2, must be able to draw on a reservoir of students prepared for advanced study by the lower schools. (Most universities are also based on one or more existing institutions, faculties, or schools and are established when a need for a higher level of training becomes evident.) The new universities must then decide how to select and govern students, how much autonomy to give programs, and what should determine faculty tenure, governance, and status of administrators before they can train manpower for special national development needs, contribute expert services, or address themselves to new educational and organizational ideas.

In Stage 3, said Bowles, governments augment new and shaky formal systems with nonformal education programs designed to combat illiteracy and improve rural life and livelihood; in Stage 4 they characteristically seek to raise the general level of educational opportunity in the formal system of education. Only in Stage 5, after these two previous stages, can the university pass "from a limited role as a teaching institution preparing for professional life or government service to a larger role as the institution central to the support of national development."[12] During Stage 5, expanding universities no longer merely add new professional faculties; they must also find innovative ways to deliver education to more people—during different hours, at new places, and in new programs of otherwise unavailable training.

It is at this stage too that universities form research programs and take on activities directed to specific development goals. "One of the most important—and most difficult tasks," said Bowles, "is the organization of interdisciplinary groups...and research institutes to identify, define, analyze, and attack development problems.... Each effort...demands a level of intrauniversity cooperation and support that no amateur university can conceive or deliver."[13] "It is necessary, first of all," said the report of a RIHED workshop, "to strengthen the universities before placing new demands upon them."[14]

On the other hand, it would be misleading to imply that, because institutions of higher education generally acquire plant, build an administrative structure, and develop teaching competence before they launch innovative social programs, young institutions cannot, therefore, establish new and better ways to educate for development; a number of them have indeed pioneered in new educational methods and concepts. Nor does it follow that innovative programs automatically appear when the first stages are out of the way. Most universities in developing (and developed) countries have, on the contrary, resisted change from the original model.

The new universities in the third world have another legacy from the western universities of the past: administrative structures which are now often ponderous obstacles to change in their new settings. In Africa, senates and councils, once insurance against administrative tyranny in the west, have become fortresses of the status quo. In Latin America, the tradition of self-contained faculties and powerful individual professors also stands in the way of educational innovation. "The process of decision making, often through committees," said M.O. Beshir, "...plus the structure of the University...modeled on the British system, has often hampered innovation and fast action."[15]

Some educators, impatient with institutional inflexibility have thus argued that radical change can come about only by creating new institutions. The principal of University College at Buckingham said: "I would have thought that if there is one fact that must be patently obvious to anyone who has ever looked, however cursorily, at the history of education at any level, from the university to the kindergarten, it is that all experiment whether in methods or curricula has taken place through the creation of new institutions, and not through the willingness of long established institutions to make room for novelty."[16] Educators in the United States point to the land-grant colleges as further evidence for this position. And Gabriel Velasquez, former dean of medicine at the University of Valle in Colombia, says the only chance for experimentation may be creating a new mechanism, outside the university structures.

Such new mechanisms of higher education have been created on three continents. Some examples are the Research and Education Program for Development at the Federal University of Bahia in Brazil; the Transfer of Technology Program at the Agrarian University in Peru; the Research Program for Systems of Health Services Delivery at the University of Valle in Colombia; the

University Centre for Health Sciences in Cameroon; the Technology Consultancy Center in Ghana's University of Science and Technology; the three institutes (Education, Administration, and Agricultural Research) at Nigeria's Ahmadu Bello University; the Centre for Studies in Rural Development at Ahmednagar College in India; and the Institute of Rural and Regional Studies at Gadjah Mada University in Indonesia.

Each of these autonomous centers or institutes, however, is attached to a university that has put down its own roots. The new institutional structures and programs do not appear full-blown out of nowhere. They require staffing and planning, and most grow out of a history of education increasingly concerned with social needs. Cameroon's health center, for example, evolved from past emphasis on preventive medicine, longtime paramedical training and gradual adoption of new teaching methods. PRIMOPS, the health services delivery program in Colombia, came into being only after a university medical faculty had developed high standards of competence. All these centers and institutes provide a clearing-house for university expertise and resources that must already exist.

New institutions, moreover, like Stage 5 universities, do not always incorporate change. Seven new universities founded in Great Britain in the 1960s had an unprecedented opportunity to experiment: they were designed with a free hand and established without the usual growing pains or political constraints. "Yet," said an observer in *The Times Higher Education Supplement*, "the most striking thing about the new universities, perhaps, was not their radicalism, but their conservatism."[17] Few departed from the normal pattern of university government or of the academic year or tried new academic or learning concepts.

New developing country institutions have had similar experiences. Like the new British universities, they often feel they cannot afford to experiment if they are to build reputations for high academic standards. Many are reluctant to strike out on unfamiliar paths. Those that have done so have needed strong conviction and, like the Development Academy of the Philippines, require both political support and a large supply of well-trained staff.

The institution should show hospitality to the new project and its ideas.

Although there may be advantages to autonomous centers or institutes, experimental programs cannot be set adrift to sink or

swim on their own. Their value derives not only from concrete activities in the community or the training of a small number of students. It is, on the contrary, their impact on the institution as a whole and on the total system of higher education that makes them a significant agent of national change. A program has value to the extent that its reforms—of curriculum, teaching methods, or use of staff—can be incorporated into the rest of the institution or can be a model for other programs. In some universities, innovative teaching techniques and methods, for example, including the open university and continuing education programs, are now considered part of extension. "In the future," said a Latin American educator, "... it should be considered part of the formal teaching of the university."[18]

The interdisciplinary teams, created to attack development problems, in turn, should encourage interdisciplinary learning in other areas of the institution; pooling knowledge and views of various departments and faculties should help break down artificial walls between fields of knowledge. Such reforms may require restructuring administration, and retraining faculty and administrators.

This retraining may be the most important step of all to further educational reform. "The major reason why higher education seems unable to innovate," said Alain Bienaymé, "comes from the way university professors are educated." Their education is based on imitation and thus they imitate traditional methods rather than searching for better ones.[19] Perhaps, as David Court suggests, "the main hope for reform lies in the intellectual interaction between two university generations: the second generation of able and critical scholars and the first generation of more cautious academics, products of different training in the earlier days of institution building, who now occupy leadership positions in the universities."[20]

A second benefit community oriented projects bring to higher education is the way they mix theory with practice, the cloister with the market place, and the scholar with the decision maker. Directors of such projects as the Technology Consultancy Center at the University of Science and Technology in Ghana recruit consultants from both the staff of the university and from outside organizations. Other projects include representatives of government and industry on planning or advisory boards or working closely in other ways with governmental extension workers or community leaders.

Research, teaching, and service depend on and enrich one another. Unless the institution brings field research and experience into the classroom and encourages both students and staff members to put theory into practice in villages and cities, higher education for development projects will be only drops of water in a sea of development need. Higher education must build a sense of responsibility for identifying development needs and for meeting them.

RECOMMENDATIONS

1. To recruit enough qualified and competent local staff, consider paying staff salary to promising graduates during their graduate training abroad or in a combination at-home/overseas program. Graduates are more likely to return if they are guaranteed staff appointments at home after their training.

2. Encourage staff to do thesis research on topics appropriate to national needs by salary or promotion incentives.

3. Offer leaves and sabbaticals for faculty and administrators to study abroad for short periods to add to their knowledge not only of their fields but also of new educational methods and materials. Internships under expatriate faculty members can also help prepare future staff. (A requirement for an expatriate post may be training a replacement.)

4. Encourage staff contacts with colleagues in other developing countries, especially innovative project leaders in the same region. Funds should be available for professional journals and reports, for sending staff members and administrators to regional and international meetings, and for visiting programs in other countries. As part of a program of mutual assistance among developing countries, grants might also be provided for visiting fellows from other countries.

5. Improve the quality and increase the number of qualified applicants to higher education by attending to educational needs at lower levels. Consider establishing a faculty or department of education to train teachers and prospective education faculty members. As part of such training, students and staff should study and seek solutions to the problems of primary and secondary schooling. Field programs in local schools should be linked firmly to university curriculum.

6. Offer salary and career incentives for innovative programs. Grant academic credit for programs that depart from the traditional curriculum and for field work closely related to academic learning. Project directors and staff drawn from faculty or administration ranks should receive extra salary and retain tenure or their steps on the promotion ladder. They may also receive travel and per diem expenses for field work, be relieved of some of their ordinary teaching load, and have a chance to make fees for consulting.

7. Provide staff and administrators who have promising proposals with time and facilities for planning new programs.

8. Offer opportunities to students to participate in university affairs, in study-service programs, and in field activities. Student participation sometimes helps break down administrative hierarchies.

9. Grant power to program directors "to ensure change and improvement in university life...or to influence decision making in the university administration."[21] Leaders should have enough weight and drive for their initiative to be taken seriously inside and outside the institution. Directors who already have the respect of colleagues within the institution can better persuade them of the need for reforms and can coordinate the project with other university activities.

10. Appoint a project director early enough to participate in planning and to identify with project purposes. Besides confidence in the program, the directors will need vision, known ability, and often, special training. They should, said one project director, be firm on matters of principle, flexible on matters of detail and prepared for shocks and surprises.[22] Success will depend on steering participants past the shoals of faculty resistance, student opposition and community mistrust, avoiding a head-on collision between protagonists of the new and defenders of the old. Directors must integrate research and teaching, recruit staff, and take time to read and assess reports. An effective director will have leadership, open-mindedness, a sensitivity and tolerance for different views, and the adaptability to modify plans. He should have the power to relieve faculty members of administrative responsibilities, help them to exchange information and opinions, and combine know-how.

11. Provide special training for administrators. "Traditional methods of administration simply will not work," said the director of the Cameroon project. "There are so many interrelationships in the organizational setup, and so many telephone calls and confrontations, that discipline is vital. Those responsible for running the project must be specially trained, and refresher courses in management techniques should be organized. Needed are flexible, highly competent, and highly motivated professional administrators who are good at problem solving. Failure to appreciate this need has caused many... difficulties...."[23]

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3. *Ibid.*
4. Questionnaire.
5. Questionnaire.
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13. *Ibid.*, pp. 457-458.
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17. Peter Wilby, "Interesting Experiments but no Radical Change," *The Times Higher Education Supplement*, June 18, 1976, pp. 6-7.
18. *Higher Education and Social Change*, Vol. II, *op. cit.*, p. 388.
19. Alain Bienaymé, Systems Study notes from Aspen Seminar, July 19-23, 1976.

20. David Court, *Higher Education and Social Change*, Vol. II, *op. cit.*, p. 61.
21. Amnuay Tapingkae, Questionnaire.
22. *Higher Education and Social Change*, Vol. II, *op. cit.*, p. 54.
23. *Ibid.*

Theory and Practice

RESEARCH

Innovation most often arises in institutions of higher education that have developed research focused on development problems.

Clearly, developing countries, like others, need scholars who can make long-range contributions to knowledge. The Indonesian statesman and philosopher, Soedjatmoko, observes that "the university...is committed to...develop the theoretical structures that make new knowledge meaningful.... While problem-oriented research and problem-solving activities are important and have to be stepped up considerably, this should not be done at the expense of the continuous search for data needed to enhance our understanding of our own society."[1]

There has been a new interest, however, in scholarship willing to strike out in new directions, to look at local needs. Such scholarship is essential to policy makers and needs encouragement. While efforts to tie research more closely to the country's specific problems should not substitute for all abstract and general research, young countries and newer institutions are turning more from exclusive concern with international prestige to a desire to be useful to the country's development. While good programs of development education have come from strong university graduate departments, it is noteworthy that most signficant innovations reported by the Higher Education for Development study stemmed from technical and professional schools rather than from the liberal arts faculties most often identified with basic research.

In almost every case, moreover, the projects surveyed in the ICED study combined disciplines to solve related social problems—medicine, agriculture, and economics at the Maeklong Integrated Rural Development Project in Thailand; health, education, architecture, and anthropology at PROPED in Brazil; engineering, urban planning, social science, and technology at the Development Academy of the Philippines. Such interdisciplinary cooperation has helped not only to solve social problems but also to enrich the quality of the research itself.

As researchers increasingly study at firsthand the conditions and problems of their own lands, they both add to an international body of scholarship and deepen their understanding of local and

regional problems. At the same time, they also bring a fundamental change to the way formal educational institutions view teaching and learning. As the researcher, working in the field, builds a scientific and scholarly base for solving problems, professor and student acquire new insight into the way theory and practice spring from such liaisons; the best blend academic programs of basic and applied research, training, and direct service, each feeding the other to their mutual benefit.

As higher education undertakes more problem-centered research, it has also become aware of the need for better technical training. A lack of trained technicians can be an almost fatal obstacle to research—as it is to practicing professionals. Many developing countries have failed to attract outstanding students to technical training, providing neither advanced technical institutions of high quality and prestige nor attractive career incentives for technicians. Countries such as Cameroon and Ghana seek to solve this problem by training professionals and technicians together under the university umbrella. In Cameroon, physicians and medical technicians train in overlapping courses and practice together as teams at the University Centre for Health Services. In Ghana, the University of Science and Technology offers both four-year degree courses and one- and two-year courses leading to diplomas and certificates.

COMMUNITY

Links with the community inform research, enliven teaching, and produce graduates more aware of social needs and better able to solve social problems.

The community plays new roles in most of these projects, ranging from requests for assistance to participation. In many cases, it has moved from audience to performer, helping to identify the problem and to determine and plan the program. Community, students, and faculty become partners in research and service. In the process, faculty and students often learn respect for the ability and know-how of people who may have less education but more practical knowledge than they. And staff and students, accustomed to authoritarian ways of imparting and repeating "knowledge," must share questions and answers in closer contact, sometimes working side by side in a farmer's field.

Ghana, Nigeria, and India, among other countries, have

programs which have affected research, teaching, and community development. The Technology Consultancy Centre at Ghana's University of Science and Technology, for example, brings university expertise to the small farmer and entrepreneur who requests help. The university encourages staff members to act as consultants to craftsmen and small manufacturers "in the belief that teaching is enhanced by professional practice."[2] The Center's aim, said its director, "is to assist the craftsman to take a forward step in technology, but a step of which he himself has appreciated the need and has anticipated the reward."[3] Such requests from the community lead back into university research.

The Extension Research Liaison Service at Ahmadu Bello University in Nigeria channels problems of agriculture in the field to university research workers and passes the resulting research back to the farmers through ministry extension services. At the Centre for Studies in Rural Development at Ahmednagar College in India, students help farmers to start cooperatives, form intervillage associations, and set up medical facilities. Students learn research methodology, channels of communication, and processes of decision making as part of a master's degree program in rural social work. Community members eventually take over programs and run them on their own.

The focus on the community has brought additional benefits to research and learning, opening the way to change in both. The problems of development are closely interwoven, and, as has been seen, in a number of developing country institutions people from different disciplines combine their knowledge and skills to solve them, setting models which more industrialized countries might well copy. The autonomous centers and institutes have usually helped researchers communicate with one another across disciplines, producing cross-fertilization for new ideas. Interdisciplinary efforts, such as the Maeklong River Project in Thailand, have not only thrown new light on development problems but have also brought new meaning and excitement to course work. They have helped produce graduates with wide perspectives, able to see ways to combine skills and knowledge to solve specific problems. "Research," said an OECD report in 1974, "(particularly socio-economic research at the level of small farm, craft and industrial units) and the dissemination of such knowledge are a priority requirement . . . the researcher in the laboratory, the government authority in the city and the peasant in the hills are not sufficiently in touch."[4] Putting them in touch is a spur to both social and

educational change.

Putting them in touch also helps guide public policy. When community members help identify needs and plan ways to meet them, both researcher and government acquire essential knowledge. Nigerian farmers doggedly resisted change urged by the Institute for Agricultural Research and Special Services at Ahmadu Bello University. When the Rural Economic Research Unit found out why—proposed planting techniques ignored traditional cropping wisdom—the institute could produce more practical and acceptable programs, and government could set more realistic policy.

Successful projects have used various ways to listen and explain. In Ahmednagar, India, community project planners sought friendships with village elders and brought plays and children's programs to the villages to establish good relations and explain the program. Projects such as the Center for Urban Development in Brazil encourage community councils to advise project leaders and to tell the community about the benefits of the program.

The best programs help communities find solutions for their own problems and develop cooperatives or other community organizations that can eventually take over the work of the project. This kind of community effectiveness needs government support and cooperation. Especially where higher education projects seek social goals—better health or housing, increased food production or more effective rural marketing—planners should take into account government priorities and consult with government agencies, even when the process is slow and means delay. In most cases, the project itself results from a political decision.

RECOMMENDATIONS

1. Encourage research in fields where knowledge needed to solve local problems is not yet available. Pertinent research, including tropical medicine, biology, and geology, can attract distinguished scientists from other countries. Outstanding local scientists may be persuaded to spend part of the year in their own countries if they can spend several months at research centers abroad, supported by local or international funds. Applied research can include local environment, climate, and raw materials; use of rivers, lakes, and seas for water supply, energy, and fish; characteristics of the population; and demand for products.

2. Encourage teaching staff to spend some time in the field: on farms if they are in the agricultural sciences; in local hospitals and clinics if in health sciences; and in villages and city communities if in the social sciences. Professors should be paid (and required) to work alongside students, teaching and evaluating field work.

3. Require student field work in both physical and social sciences and provide course credit for it. Students receive academic credit for field work in Ahmednagar's social work program (India), at the Monterrey Institute of Technology and Advanced Studies (Mexico), and in a Gadjah Mada University project (Indonesia) where students also receive a salary helping villagers to plant crops, raise poultry, and reforest hillsides. Students in Tanzania learn local conditions and social science research techniques in "teaching through research" programs.

4. Bring together people from various disciplines to work on a development project. All researchers should devote some time to teaching students, creating a dialogue between research and teaching, teaching and community service, service and research.

5. Set up a training program for skilled technicians that will qualify graduates for high pay and prestige. Both research and professional practice are almost impossible when such technicians are not available.

6. To bring about community change, involve the community affected in the research project.
   a. Seek community confidence through discussion groups, seminars, and lectures, which include staff, students, and members of the community.
   b. Invite village leaders and elders to help identify needs and problems.
   c. Help organize community councils to decide on priorities, formulate problems, discuss ways to solve them, and interpret research.
   d. Look for new ways to encourage village initiative and leadership.

7. Inform community of institution's and government's role in the project. Community members often remember previous government bungling and learn to trust and respect new

efforts only when such efforts show corresponding respect for community thinking.

8. Encourage exchange of knowledge and experience with government and industry. Consider free and equal exchanges between university staff and professionals in government and industry. University staff might spend some time in industry and government, and professionals and administrators might teach.

9. Avoid jargon in research reports; too many such reports are written only for a small coterie of fellow researchers. Explain clearly what the project attempts and accomplishes not only for academics in other disciplines but also for the government and industrial consumer of development research, who is likely to ignore abstruse language and heavy tomes.

10. Consult with government on social and economic priorities.

1. Soedjatmoko, *Some Thoughts on Higher Education*, ICED Occasional Paper #15, New York: International Council for Educational Development, 1975, p. 15.
2. *Higher Education and Social Change*, Vol. II, *op. cit.*, p. 97.
3. *Ibid.*, p. 99.
4. Maurice J. Williams, *Development Co-operation: Efforts and Policies of the Members of the Development Assistance Committee*, OECD 1974 Review, Paris: Organization for Economic Co-operation and Development, 1974, p. 114.

Performance and Audience

EVALUATION

Ways to judge performance should be built into a program's original plans.

How do policy makers decide what programs to implement, whether they are worth continuing once begun, and whether they should be copied elsewhere? How do participants know how good a job they are doing and what methods work best? How do local and outside funding agencies know how much a program is worth and what value they are getting for their money?

Such questions lie at the heart of change, for new ways are justified only when they are "better" than the old ones. The purpose of evaluation is to answer them; ideally it seeks to provide facts about accomplishments and impact of the program on which funders, program directors, or participants can base their decisions. In education especially, which claims larger and larger proportions of national budgets in developing countries, everyone who allocates money needs to know where it will do the most good. Institutions of higher education, governments, and outside funders seek better evaluation techniques to help them set priorities.

Finding out how good a program is involves a number of difficulties. The OECD workshop on the Management of Innovation in Education listed three.[1] The first is defining clearly the aims of the program, what it expects to accomplish in terms of skills, of new attitudes or behavior, or of social impact. The second difficulty is finding adequate ways to measure what the program does. Do the tests measure what they say they measure? Are interviewers asking the right questions? Do the people responding to questionnaires represent the group affected by the program? Are the statistics reliable? Measuring instruments can range from census counts to subjective judgment. The third difficulty is how to decide what adds up to "success." How much progress can be expected? Should results be compared with last year's record? With another program? Or with a control group?

There is a fourth problem of evaluation basic to the others: How valid are the goals themselves? Does the project seek quantity (more students) at the expense of quality (their competence)? Does it address itself to important educational and social needs?

If these questions are considered when the first plans are made,

it will be easier to assess results, and the project itself has a better chance of success. In clarifying their goals, planners provide evaluators with yardsticks against which they can better measure what the program is accomplishing. At the same time, programs that set clear objectives, based on real needs, can focus their energies more effectively. The evaluator's facts and figures can feed back into the program, helping participants to correct mistakes and helping directors to reorganize or replan.

Evaluators should help identify measurable goals.

The more precise the goal, the easier it will be to measure. Higher crop yields, lower mortality rates, more roads, and less disease can be measured by results. Projects with such goals can be clearly defined and are likely to be more "effective" than reforms seeking changed attitudes and social values, since the "effect" is more evident.

As most program directors know, however, good programs do not always have clear goals at the beginning. Many combine several aims, some more vague and more general than others. Like the graduate management program at the University of Valle, the long-range objective may be as general as economic development of the area. Or, like the Ahmednagar or Maeklong projects, the aims may be to improve rural conditions. More specific goals, such as new training and teaching methods, may evolve largely through trial and error, or through research into specific needs and conditions. Standards, however,—what is "enough" food production to sustain a rural population?—are not often measured.

Carol H. Weiss, in her book *Evaluation Research*, lists several steps an evaluator can take when faced with program personnel who cannot agree on specific goals. First, he can ask what the program's goals are and wait for program planners and participants to agree. Second, he can frame a statement of goals himself, based on observation, interviews, and other knowledge about the program. (If he picks this alternative, says Weiss, he runs two risks: that he may shift the goals according to his own preconceptions and interests, and that when he has finished the evaluation, the practitioners will say that was not what they were trying to do.) Third, he can sit down with the program people to discuss their goals with them, helping to produce the clearest possible formulation of objectives through an exchange of opinions and points of view.

The fourth and final possibility is to set aside the question of goals and to look broadly at what the program is doing without undertaking a true evaluation study in which results are measured against goals. "Evaluations based on too specific goals and indicators of success," says Weiss, "may be premature in a field in which there is little agreement on what constitutes success."[2]

Planners may wish to change goals as well as methods as a project progresses. In successful programs "goals and methods were modified to suit the needs and interests of participants and ...participants changed to meet the requirements of the project."[3] Moreover, while a given project cannot pursue contradictory goals, it may seek several different but compatible ones. Student competence and community development, for example, may go hand in hand, as can building a better faculty while improving rural health.

The evaluator should consider the decisions that must be made and questions that must be answered.

Each decision requires a different kind of consideration. Top policy makers must decide whether to continue or drop the program, whether to limit or expand it, whether to allocate money to this program or another one. Directors want to know which practices and procedures are best and how they can improve them, which features are essential and which can be changed, which methods, structures, techniques and staff patterns to use. Staff must decide how much time to allot to lectures, films, counseling, whether to stress subject matter or skills.

A program evaluation cannot provide the answers to all questions, and the evaluator must know who his "client" is. The design of the evaluation will thus be shaped by its use; if it is to inform decisions from the outside—should the program be continued, expanded, institutionalized?—standards must be carefully defined and measures for changes in learning, health, agricultural production, or community incentive, for example, must be carefully devised. If the evaluation is to help participants improve their methods, evaluators must know what happens when teaching and curriculum, for example, are changed and which change is more effective.

Some programs should be assessed by outsiders, some by participants.

Half the developing country educators who responded to the ICED questionnaire thought outside agencies should evaluate projects, and half thought only the participants, or the participants with the project designers, should evaluate them. Many successful projects use a combination of both. They regularly set aside time for participants to discuss progress and obstacles, to devise new methods and modify goals. Such sessions encourage critical thinking, air difficulties, and strengthen commitment.

Participants, however, sometimes see only the trees and lose sight of the forest. They are so busy with day-to-day operations that they find it difficult to step off and see their own program in terms of what it was designed to accomplish. Evaluators from outside the institution can help provide perspective. They can raise questions, point out snags, make suggestions, and possibly offer help. To be most useful, they should seek to improve the program, not to rate individuals. Coming from outside the institutional chain of authority, they may be less threatening to administrators or faculty and thus more acceptable. "Those with outside jobs," said Puey Ungphakorn, "can elaborate and improve the projects in the light of their outside experience."[4]

Whether an evaluation should be made inside or outside the program depends again on the purpose of the evaluation. If an evaluation is designed to find out whether the project as a whole is worth doing, it should probably be directed by persons not involved in the program itself. Managers and participants in a project will probably want it to continue, and evaluators should therefore be independent experts unconnected with the project.

On the other hand, participants themselves, perhaps with outside help and guidance, should evaluate what the program achieves and the methods it uses to reach its goals. What they find out about the results will affect what they do.

In writing of The Rand Corporation's study of U.S. federal government projects, Dale Mann says: "Evaluation in the sense of *informal* but serious stock taking by project staff and district clientele was an important activity in the most successful projects. They paid attention to it and they changed because of it. Evaluation in the sense of *formal* project assessment for the...grantors was done to continue to qualify for money, not for its utility to project management."[5] Different administrative levels should assign and receive the two kinds of evaluation. Formal outside evaluation of the overall program should be directed to top policy makers; reports that compare alternative methods of operation should go to

project managers. In either case, evaluators can gather the information they need only if project managers support and take part in evaluation.

Evaluators should try to weigh costs and benefits of a program.

Cost-benefit analysis is a form of evaluation that tries to put a money value on the benefits expected from a program. The cost-benefit analyst, says Carol Weiss, "attempts to identify the benefits of a program, both tangible and intangible; he looks at the cost of conducting the program, the direct and indirect; then he tries to put them into a common unit of measure—dollars. The ratio of benefits to costs is an indication of the return that society is getting from its investment in the program."[6]

Such a tool works best in fields such as agriculture, where the cost of seed, fertilizer and labor can be compared to the value of crop yield. The benefits of education, however, do not lend themselves easily to price tags. What is the dollar value of literacy or of self-confidence? Of changed attitudes to social needs? Of graduate study in history?

"Despite considerable efforts to develop rate of return analyses as an operational tool in education," said a World Bank paper, "it has so far been impossible to resolve many of the methodological and practical difficulties either for sector or project analysis." A USAID statement said, "Few human endeavors are as beset by variables, inconstants and unknowns as education. Its proper objectives and content have been in dispute throughout history and remain so."[8]

Nevertheless, while it is hard to tie costs to benefits and causes to effects in education, tools can be devised to measure program results—changes in student knowledge or attitudes, improved production or health, increased community self-confidence—and link them to money spent. While cost-benefit analysis cannot determine educational goals, it can contribute to decisions about what should be done and how to do it.

Some of the ways to measure performance are written tests of information learned, interviews, questionnaires, observation, and government statistics. When the same yardsticks are used in each case, results can be compared more easily. Have the test scores gone up or down? Do the statistics show a change possibly brought about by the program?

In addition, the measures must reflect the program's purposes.

It is useless to test only "facts" learned when the program seeks to improve problem solving skills or change student attitudes. Success cannot be measured by increased enrollment in a training program if there are no jobs at the other end.

Educators should be trained in evaluation techniques.

Many countries feel the need to change and improve their educational programs or systems, but few educators are able to measure the impact of educational policies. Evaluation is "the necessary basis for change [and] is often lacking," members of the OECD-CERI seminar agreed.

In 1963, the International Centre for Educational Evaluation was established at the University of Ibadan in Nigeria with help from the Carnegie Corporation of New York. It was designed to meet a shortage in Africa of educators trained in evaluation and to undertake basic research into new ways of evaluating programs. One of the problems it has been invited to review is: Which language should be used to instruct primary students in countries which have many languages and many ethnic groups? The problem is complex—the choice of language affects learning and also the content of what is taught, and there are few mechanisms for evaluating the benefits of one language over another.

Another multicountry evaluation program was started in 1974 when eight developing countries agreed to study and evaluate the impact of study-service programs on the participants, on the communities in which they work, and on the educational institutions from which they come. With a grant from the International Development Research Center in Canada and with individual contributions from the countries involved, research teams in the Philippines, Indonesia, Iran, Thailand, Nepal, Malaysia, Ethiopia, and Sri Lanka seek to upgrade research skills among university faculty members who evaluate projects. They exchange information through a Study-Service Research Network, headed by Amnuay Tapingkae of RIHED.

While even the most sophisticated evaluators cannot answer many of the questions about the effects of educational programs, they can point out what has gone wrong and where something must be done. Institutions of higher education, development institutes and regional organizations can, like the Centre at Ibadan and the Study-Service Research Network, build departments of evaluation research and provide rigorous training for would-be evaluators.

Evaluations should be designed to produce valid comparisons.

Decision makers may want to know what difference an individual project has made or which of several projects most deserves support. In a single project, evaluators can measure skills or attitudes, health or production before and after a project to find out what changes have occurred. They will want to be sure, however, that the changes came from the project itself and not from outside conditions. Differences in methods of selection, staff, or community support will affect the results. People change on their own, and difference in the job market or general economy can account for a different demand for trainees.

Project results can be compared with the results of a control group—people as similar as possible to the project participants, facing the same conditions but receiving none of the project services. Measurements will be most accurate if people are assigned at random to control and project groups, and both groups are measured before the program begins, after it ends, and at periodic intervals during its course.

To find the most effective among a number of projects or a number of experimental ideas, evaluators can compare them, although these cross-program studies are costly and difficult to carry out. Here, too, the same measures should be used, and the characteristics of participants, area, and other outside conditions should be kept as alike as possible so that differences in the programs themselves can be identified. With only one change at a time, new approaches can be compared with previous ones. The evaluator should also be close enough to the program to know that it is changing. He should be able to examine records, observe the program in action, and talk to director and staff.

To be most useful, evaluations should also be written clearly,without technical jargon, and should be available before decisions must be made. Too often evaluation reports wrap conclusions in layers of verbiage and lie unread on a shelf. Or they appear on a project director's desk only after decisions are already taken.

DISSEMINATION

Change projects must tell others what they have accomplished and widen their support. To do so, they should keep in mind their audience and what various people will want to know.

Students considering new kinds of training will want to know how well the original project placed its graduates in jobs and whether or not field work has academic standing. Faculty members will want to know whether learning improved, what difficulties new teaching methods involved, and what research opportunities the project provided to them. Members of other communities may well suspect university groups of meddling unless they see a record of genuine achievement in solving concrete community problems. Government ministries must be aware of social, economic, and educational accomplishments if they are to support projects and increase aid to higher education.

Plans should, from the first, include ways to disseminate new ideas and practices—both information about the project and research stemming from it. Local research results should be distributed nationally and even internationally; local research becomes more acceptable as it becomes better known. Students and faculty at home and abroad must know what has been done so they can build on it or combine related efforts.

There are a number of ways to tell people about the project and its research. Academic or professional journals can help. In-service conferences also keep faculty members informed and invite their cooperation; here "resistance to change can become vocal and can, presumably, be countered," concluded the OECD seminar.[10] The Institute for Development Studies at Nairobi ran a regular column in one of the national newspapers, reporting highlights of its research. A national development academy or the project itself can publish articles on new project activities and findings.

Such publication can serve still another function. Faculty members sometimes resist doing local research because, they say, it does not further their careers. They are not promoted, they complain, unless they have papers published in international journals, and such journals tend to accept only traditional research. A national development academy might help raise the prestige or research on local and national problems by establishing a national journal and electing to membership scholars who have made distinguished contributions.

Many higher education for development projects spread because communities and individual community members request services. Project leaders can inform the community of such services through personal conversations, general meetings, radio programs, and posters. The Extension Research Liaison Services unit at Ahmadu Bello University in Nigeria runs radio and TV programs in 14 languages, and teams tour farming regions answering farmers' questions. In Tanzania, a university health campaign reached two million people with booklets, radio, and discussion groups. A project at the Agrarian University in Peru met almost all requests for technical help throughout the country, thereby creating both community awareness and enthusiasm for the project.

RECOMMENDATIONS

1. Include a trained evaluator in the original planning group. He or she should help identify measurable goals and design ways to measure how well they are reached.

2. Identify the consumers of evaluation reports and what each will want to know. What are the evaluation concerns of directors, staff, students, community, and government? The kinds of measurements made will depend on decisions required.

3. Determine whether evaluations should be made by an outside agency as well as by the project evaluator. Outside evaluators can provide helpful perspective on the project. In addition, if policy makers must decide whether or not to continue or extend the project, an evaluation should be made by someone outside the project.

4. Consider which measures of project performance will be most appropriate: written tests, interviews, questionnaires, observation, social statistics.

5. Determine what standards are to be used: Change in student competence; change in attitudes (student, staff, community); job placement of student; effect on economic development; effect on social problems; effect on institution's teaching; or others. Standards are closely related to the goals of the project.

6. Set up a control group to compare with the group being evaluated.

7. Encourage evaluation research and training of evaluators, locally and regionally.
8. Weigh costs (monetary and social) against benefits.
9. Insist on clearly written reports, which nonprofessional and nonacademic readers can understand. Reports will be unlikely, otherwise, to inform policy.
10. Investigate ways to distribute both evaluation reports and other information about projects, locally, nationally, and internationally; among students, staff, community members, and government policy makers. Consider professional journals, in-service conferences, newspaper columns, regional conferences, newspaper columns, regional conferences and workshops, radio broadcasts, booklets, government/education discussion groups.
11. Invite various groups and individuals to visit the project and ask questions about it. Ideas spread when visitors return home and adapt them to local needs.
12. Send project directors and participants to other communities to talk abut the project and its services.

1. Centre for Educational Research and Innovation, *op. cit.*, p. 39.
2. Carol H. Weiss, *Evaluation Research: Methods for Assessing Program Effectiveness*, Englewood Cliffs, N.J.: Prentice Hall, 1972, p. 28.
3. Milbrey Wallin McLaughlin, "Implementation as Mutual Adaptation: Change in Classroom Organization," *Teachers College Record*, Vol. 77, No. 3, February 1976, pp. 340-341.
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6. Weiss, *op. cit.*, p. 84.
7. Hans Heinrich Thias and Martin Carnoy, *Cost-Benefit Analysis in Education—A Case Study of Kenya*, World Bank Staff Occasional Papers, No. 14, Baltimore: Johns Hopkins University Press, 1972, quoted in World Bank Education Sector Working Paper, 1974, p. 43.
8. Agency for International Development, *Sector Statement on Education: Summary*, April 1973, mimeographed, p. 1.
9. Centre for Educational Research and Innovation, *op. cit.*, p. 16.
10. *Ibid.*, p. 41.

A PROJECT CHECKLIST

The following list is a summary and restatement of the material already discussed, arranged according to specific project concerns.

PLANNING

1. Planners should look for powerful sponsors, inside and outside the institution.
2. Aims should be both realistic and ambitious, providing real alternatives, not just small improvements.
3. Planners should consult with government on local and national priorities and on how a project can be most useful as a model.
4. All groups should help plan—faculty, students, community, and government. They should be able to accept the values underlying the reform.
5. Planners should seek enough time and money at the start of a project to exchange views, consult with others, visit other projects, and train staff.
7. Planning should continue during the life of the project so that methods and progress can be discussed regularly by participants.
8. Planners should view the project as part of a larger process of development. Much of its value depends on how well it relates to a larger plan and how well it can be reproduced elsewhere.
9. Contingency plans should be made in case methods or procedures fail.

ADMINISTRATION

1. Project directors who are not also originators of the project should be appointed early enough to plan and help set goals.
2. Project directors will need vision, known ability and, often, special training. They should have enough weight and drive for their initiative to be taken seriously inside and outside the institution.
3. Administration should be structured so that staff members can work easily with people from other disciplines and so that interdisciplinary approaches can be used.

4. A project should have enough autonomy to provide freedom to experiment. Administrators should be spared institutional red tape and should be able to make decisions on the spot.

5. Administrators should establish relationships with other parts of the institution of higher education.

6. Administrators should have the flexibility to change goals and modify procedures when necessary but should immediately inform participants of changes.

STAFF

1. Staff members should believe in the project. Without their commitment the project will have little impact on either development or education. They should know and understand goals and methods from the beginning.

2. The project should provide personal and professional incentives for staff members. Such incentives include prestige, extra salary, internships, travel and per diem expenses for field work, leaves for planning or preparation, opportunities for research, for learning, and for moving up a career ladder.

3. Staff training should continue over the course of the project. Staff members learn new skills and adapt to new roles more easily if they can discuss difficulties as they arise, share ideas, and receive support from director and colleagues.

4. Staff members (and administrators) should visit similar projects elsewhere.

5. Staff members should be encouraged to prepare their own teaching materials, incorporating project ideas into lesson plans and research guides.

6. Staff members in community centered projects should spend time in the field, learning problems firsthand. They should supervise and evaluate student field work and relate field experience to classwork.

STUDENTS

1. Students should see advantages in the project. Their training should give evidence of providing good job credentials.

2. Students should be well informed about what the project tries to do, how well it is progressing, and what it expects to achieve.

3. Students, like staff, should acquire firsthand knowledge of

rural problems by spending time in villages.

4. Student work/study programs should enlist cooperation of government and industry in placing students in work/study jobs related to classroom work and training needs. Projects can encourage employers to offer meaningful jobs by inviting professionals from government or industry to serve on academic faculties or act as examiners, by arranging for staff to spend time in government or industry, and by providing evidence to employers that students have good job skills.

5. Students should receive counseling and supervision in their fieldwork, possibly through a work training organizer.

6. Students should receive academic credit for supervised field work.

7. Students should be encouraged to use their training to solve local and national problems after graduation. Incentives to work in rural areas include money stipends, agreements to finance study at home or abroad in return for service, and better facilities in rural areas.

COMMUNITY

1. Community councils and individuals should help to identify needs and to plan the project.

2. Communities should be encouraged to take over project activities as soon as possible.

3. Community members should be informed of project goals, services, progress and achievements through personal contact, meetings, posters, radio programs, and discussion groups. Student-staff teams can tour farming regions, answering farmers' questions.

4. Strong efforts should be made to link the community and higher education, with experience and knowledge flowing both ways.

FINANCE

1. Projects should seek decreased dependence on foreign funds. Foreign aid should supplement, not replace, local and national resources. The closer the level of funding authority to the project the more independence the project will have.

2. Cooperative financing in which local, national, regional, and foreign agencies participate protects local leadership, supplies varied advice and consultation, and often provides adequate funds.

3. Funds should be guaranteed for five or ten years, if possible. Money is needed for early planning and staff training and for slow changes in attitudes and relationships among staff, students, and community during the operation of the project.

4. Projects should consider timing of financial support. Training, equipment, or buildings supplied at the wrong time may do more harm than good.

EVALUATION

1. Ways to evaluate the project should be planned before the project gets underway.

2. The kinds of decisions to be made should determine the design of the evaluation.

3. Project performance should be measured by comparing project participants with a control group by means of written tests, interviews, questionnaires, statistics and/or observation.

4. Standards of performance should be determined when goals are set. Is success measured by change in attitudes, job placement, economic, social, or educational change?

5. Efforts should be made to improve evaluation research and train more evaluators.

DISSEMINATION

1. As many people as possible should be informed about what the project seeks to do and what it does. Plans should be made especially to reach students, faculties, community members, and government.

2. Local research results should be distributed nationally, regionally, and internationally.

3. Reports of research should be written in understandable form.

4. Information should be distributed through professional journals, newspapers, radio, posters, discussion groups, pamphlets, and/or touring project staff.

CONCLUSION

The conclusions about change in higher education, and especially its role in development, must be tentative. It is clear that new projects should have enough independence but also enough support. They must be propelled by enough sense of crisis as well as by enough common purpose. They arise from enough encouragement to reformers but also from a receptiveness to reform, enough basic research and enough problem-centered research. Finally, those seeking to make an educational and social impact must have enough ability to measure experimental projects and also arouse enough interest in what these measurements mean.

What then is enough? It takes a wise policy maker to determine it, according to the time and the place. A good physician does not prescribe the same medicine or the same dosages for child and adult, the robust and the frail. Like the physician, the educator and developer must gauge the effects of a remedy before he prescribes. It is hoped that the prescriptions in this handbook can, when applied with judgment and experience, help higher education make the contribution to social well-being of which it is capable.

Appendix I

International Council for Educational Development
680 Fifth Avenue, New York, N.Y. 10019

QUESTIONNAIRE ON INNOVATION IN HIGHER EDUCATION FOR DEVELOPMENT

Initiation

1. What conditions are necessary for constructive change within institutions of higher education? (Please rank the following in order of importance and explain briefly.)

_____ a. Staff/student/community participation in project planning?
_____ b. Academic credit for student service?
_____ c. Remuneration for participants?
_____ d. Career incentives for participating staff (salary, prestige, promotion, new skills)?
_____ e. Support by people in authority?
_____ f. Peer group support?
_____ g. Staff training?
_____ h. Precise definition of goals?
_____ i. Institutional autonomy?
_____ j. Reforming structure, governance and decision-making procedure?
_____ k. Availability of seed money?
_____ l. Other?

2. Who, in your experience, have been most likely to start innovative HED projects? (Please rank in order of importance and explain briefly. Keep in mind three or four who have been clearly the most successful.)

_____ a. Full-time (or part-time) faculty?
_____ b. Faculty who have studied abroad?
_____ c. Faculty with outside professions or jobs?

_____ d. Outside advisors?
_____ e. Administrators?
_____ f. Students?
_____ g. Community or business groups?
_____ h. Government?
_____ i. Other?

3. Why do higher education institutions support new projects? (Please rank in order of importance and explain briefly.)

_____ a. Falling (or increasing) enrollment?
_____ b. Changing student body?
_____ c. Need to raise academic standards?
_____ d. Need to attract funds?
_____ e. Poor employment prospects for graduates?
_____ f. Sense of social or educational crisis?
_____ g. Individual with passionate interest?
_____ h. Other?

Implementation

4. What authority must directors of effective projects have? (Please explain briefly.)

_____ a. To require participation in project (rather than asking for volunteers)?
_____ b. To control staff promotion or other rewards?
_____ c. To award student credit?
_____ d. Other?

5. Under what conditions do outside funds have the most impact? (Please rank in order of importance and explain briefly.)

_____ a. When a project is supported by local initiative?
_____ b. When there is joint investment of outside and inside sources?
_____ c. When a project is supported by regional or international rather than national funds?
_____ d. When support is public (or private)?

Evaluation

6. What standards should be used in measuring HED projects? (Please rank in order of nportance and explain briefly.)

_____ a. Effect in institution's teaching? Curriculum?
_____ b. Duration of project?
_____ c. Job placement of student?
_____ d. Effect on social problems?
_____ e. Effect on economic development?
_____ f. Change in attitudes?
_____ g. Change in student competence?
_____ h. Other?

7. Who should evaluate projects?

_____ a. Project designers?
_____ b. Participants in projects?
_____ c. Outside agencies?
_____ d. Other?

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